

EVALUATING STRATEGIES FOR E-COMMERCE SITES: A MALAYSIAN PERSPECTIVE

SHERLIN SUBRAMANIAM

UNIVERSITI UTARA MALAYSIA

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**EVALUATING STRATEGIES FOR E-COMMERCE SITE:
A MALAYSIAN PERSPECTIVE**

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By
Sherlin Subramaniam

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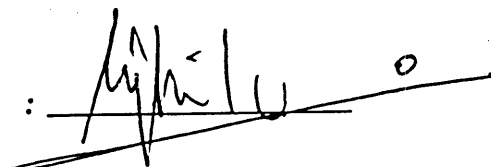
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ABSTRAK

Setiap organisasi perlu menilai secara berterusan strategi yang digunakan dalam pembinaan tapak Web. Ini adalah disebabkan sifat Internet yang dinamik. Dengan menggunakan model AIPD yang dibangunkan oleh Simeon, kajian ini menilai strategi-strategi yang digunakan untuk pembinaan laman Web dalam perbankan Internet di Malaysia. Terdapat 10 bank komersial di Malaysia yang menjalankan perbankan Internet.

Tapak Web menjadi penghubung antara organisasi dan pelanggan. Keperluan dan tanggapan pelanggan sering berubah mengikut perubahan di dalam persekitaran pemiagaan. Organisasi perlu mengenalpasti keperluan dan tanggapan ini bagi memastikan mereka terus berdaya saing. Oleh yang demikian, strategi e-dagang perlu diberi perhatian yang serius oleh organisasi dan perlu penilaian yang berterusan.

Kekurangan penilaian dalam menilai strategi yang digunakan untuk membina tapak Web e-dagang tempatan mendorong kepada kajian ini. Penilaian telah dilaksanakan dengan menggunakan tiga pakar. Keputusan penilaian digunakan sebagai perbandingan kepada hasil kajian yang telah dilaksanakan oleh Simeon. Hasil kajian menunjukkan bank komersial di Malaysia menggunakan strategi 'informing', 'positioning' dan 'delivering' dengan efektif. Model AIPD digunakan untuk mengenalpasti strategi-strategi perbankan Internet di Malaysia yang perlu kepada penambahbaikan. Kajian ini menunjukan penggunaan teknologi terbaru memainkan peranan yang penting dalam merekabentuk tapak Web dan strategi edagang.

ABSTRACT

An organisation needs to evaluate its strategy for e-commerce site constantly due to the dynamic nature of the Internet. Using the 'AIPD' model developed by Simeon, this research attempts to evaluate strategies for e-commerce site for Malaysian Internet banking environment. There are 10 commercial banks with Web presence in Malaysia and all of these banks were included in this study.

An organisations' e-commerce site is the interface that connects the business with the customers. The needs and expectations of the customers are always changing due to changes in the business environment. This needs and expectations must be **recognised** in order to stay competitive. As such, e-commerce strategy is a crucial part that needs constant **evaluation** and taken seriously by the organisations.

The lack of study in domestic e-commerce site strategy evaluation has motivated this research. The evaluation was carried out using three experts. Results from the evaluation were then used to compare the results from Simeon's findings. The result reveals that Malaysian commercial banks are following **effective** informing, positioning, and delivering strategies. The **AIPD** model is later used to identify strategies in the Malaysian Internet banking that needs improvement. This study reveals that technological advancement plays important role in Web site design and e-commerce strategy.

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CHAPTER 1

INTRODUCTION

The Internet is revolutionising the way business is done due to technological developments in the area of Telecommunication and Information technology. The Internet is linked with network of computers; it is valuable, powerful, and fast growing business tool because it is flexible, economical, and easy to use. The emergence and the popularity of the Internet allow business firms to get more customers and to increase public awareness of their firms, services, and products. The number of potential and existing customers is large on the Internet because of its affordable cost and easy access to view product, service, and information offerings from an unknown number of potential entrepreneurs (Aldridge *et al.*, 1997). Besides that, according to Damanpour (2001), electronic commerce (e-commerce) is important for every business, and it is no longer an alternative.

E-commerce is mostly related to any transaction using the World Wide Web (WWW) for business purposes (Turban *et al.*, 2002; Bloch *et al.*, 1996; and Murphy & Bruce, 2003). The advent of new technologies such as mobile commerce, wireless commerce, and interactive digital TV has also enabled access to e-commerce activities (Chaffey,

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BIBLIOGRAPHY

- Abels, G.E., White, M.D., and Hahn, K. (1998). *A User-Based Design Process for Web Sites*. Internet Research: Electronic Networking Applications and Policy, Vol. 8 No. 1, pp.39-48.
- Aldridge, A., Forcht, K., and Pierson, J. (1997). *Get linked or get lost: marketing strategy for the Internet*. Internet Research: Electronic Networking Applications and Policy, Vol. 7 No. 3, pp.161-169.
- Bauer, C. and Scharl, A. (2000). *Quantitative evaluation of Web site content and structure*. Internet Research: Electronic Networking Applications and Policy, Vol. 10 No. 1, pp.31-43.
- Bloch, M., Pigneur, Y., and Segev, A. (1996). *On the Road of Electronic Commerce: A Business Value Framework, Gaining Competitive Advantage and some Research Issues*. http://inforge.unil.ch/yp/pub/ROAD_EC/EC.HTM. Accessed date: 18 July, 2003.
- Chaffey, D. (2002). *E-Business and E-Commerce Management*. Gosport: Pearson Education Ltd.
- Chen, S. (2001). *Strategic Management of e-Business*. Sussex: John Wiley & Sons, Ltd..
- Cox, J. and Dale, B.G. (2002). *Key Quality Factors in Web Site Design and Use: An Examination*. International Journal of Quality and Management. <http://www.emeraldinsight.com/0265-671X.htm>. Accessed date: 11 April, 2003.
- Damanpour, F. (2001). *E-business E-commerce evolution: Perspective and Strategy*. Managerial Finance, Vol. 27 No.7, pp.16-31.
- Day, A. (1997). *A Model for Monitoring Web Site Effectiveness*. Internet Research: Electronic Networking Applications and Policy, Vol.7 No.2, pp.109-115.
- Dix, A., Finlay, J., Abowd, G., and Beale, R. (1998). *Human-Computer Interaction*. 2nd Edition, Hertfordshire: Prentice Hall.

- Eid, R., Trueman, M., and Ahmed, A.M. (2002). *A cross-industry review of B2B critical success factors*. Internet Research: Electronic Networking Applications and Policy, Vol. 12 No. 2, pp.110-123.
- Fink, D. and Laupase, R. (2000). *Perception of Web site design characteristics: a Malaysian/Australian comparison*. Internet Research: Electronic Networking Applications and Policy, Vol. 10 No. 1, pp. 44-55.
- Fulford, H. (2001). *Using the Internet for International Marketing: Web Site Design Issues for UK SMEs Competing in Foreign Markets*.
<http://www.lboro.ac.uk/research/fulford>. Accessed date: 27 June, 2003.
- Gupta, J.N.D. and Sharma, S.K. (2002). *Cyber Shopping and Privacy*. Ed. Fazlollahi, B. in *Strategies for E-commerce Success* (2002). pp. 1-16. London: IM Press.
- Jayawardhena, C. and Foley, P. (2000). *Changes in the banking sector – the case of Internet banking in the UK*. Internet Research: Electronic Networking Applications and Policy, Vol. 10 No. 1, pp.19-30.
- Kao, D. and Decou, J. (2003). *A Strategy-Based Model for E-commerce Planning*. Industrial Management and Data System. <http://www.emeraldinsight.com/263-5577.htm>. Accessed date: 27 June, 2003.
- Kim, S. E., Shaw, T., and Schneider, H. (2003). *Web site design benchmarking within industry groups*. <http://www.emeraldinsight.com/1066-2243.htm>. Accessed date: 11 April, 2003.
- Lawrence, E., Corbitt, B., Tidwell, A., Fisher, J., and Lawrence, J. (1998). *Internet Commerce: Digital Models for Business*. Singapore: John Wiley & Sons Ltd.
- Lee, C. S. (2001). *An analytical framework for evaluating e-commerce business models and strategies*. Internet Research: Electronic Networking Applications and Policy, Vol. 11 No. 4, pp.349-359.
- Linden, A. (2000). *Changing the Face of E-commerce: New Approaches to Customer Service on the Internet*. http://www.ebs.de/Lehrstuehle/Wirtschaftsinformatik/Lehre/Seminar00/p_linden.pdf. Accessed date 30 July, 2003.

- McCloskey, D.W. and Whiteley, D. (2001). *Electronic Commerce Acceptance: A Study Comparing the United States and the United Kingdom*. Ed. Fazlollahi, B. in *Strategies for E-commerce Success* (2002). pp. 185-195. London: IM Press.
- McNaughton, R.B. (2001). *A topology of Web site objectives in high technology business markets*. Marketing Intelligence & Planning, Vol. 2 No. 19, pp.82-87.
- Misic, M. M. and Johnson, K. L. (1999). *Benchmarking: a tool for Web site evaluation and improvement*. Internet Research: Electronic Networking Applications and Policy, Vol. 9 No. 5, pp.383-392.
- Murphy, R. and Bruce, M. (2003). *Strategy, Accountability, E-commerce and the Consumer*. Managerial Auditing Journal. <http://www.emeraldinsight.com/0268-6902.htm>. Accessed date:18 July, 2003.
- Norhayati, A.M. (2000). *Barriers to Putting Businesses on the Internet in Malaysia*. <http://www.is.cityu.edu.hk/research/ejisd/vol2/v2r6.pdf>. Accessed date 30 July, 2003.
- Okazaki, S. and Rivas, J.A. (2002). *A content analysis of multinational's Web communication strategies: cross-cultural research framework and pre-testing*. Internet Research: Electronic Networking Applications and Policy, Vol. 12 No. 5, pp.380-390.
- Oslina, L., Godoy, D., Lafuente, G.J., and Rossi, G. (1999). *Specifying quality characteristics and attributes for Web sites*. Paper presented at the first ICSE workshop on Web engineering (WebE-99), Los Angeles, USA.
- Potter, M.E. (2001). *Strategy and the Internet*. Harvard Business Review. March.
- Rohn, J. N. (1998). *Creating Usable E-commerce Site*. <http://eservice.uum.edu.my:2077/10.1145/3300000/324046/p110-rohn>. Accessed date: 22 August, 2003.
- Schneiderman, B. (1998). *Designing the user interface: strategies for effective human computer interaction*. 3rd Edition, USA Addison Wesley Longman, Inc..

- Simeon, R. (1999). *Evaluating domestic and international Web-site strategies*. Internet Research: Electronic Networking Applications and Policy, Vol. 9 No. 4, pp.297-308.
- Suganthi, Guru, K., and Shanmugan, B. (2001). *Internet banking patronage: An empirical investigation of Malaysia*. <http://www.arraydev.com/commerce/jibc/0105-05.htm>. Accessed date: 21 May, 2003.
- Timmers, P. (1999). *Electronic Commerce: Strategies and Models for Business to Business Trading*. Chichester: John Wiley & Sons Ltd.
- Turban, E., King, D., Lee, J., Warkentin, M., and Chung, H.M. (2002). *Electronic Commerce: A Managerial Perspective*. 2nd Edition, New Jersey: Pearson Education
- United Nation Conference on Trade and Development (UNTAD) (2002). *E-commerce and Development Report 2002*. http://r0.untad.org/ecommerce/docs/erd02_en/ecdr02.pdf. Accessed date: 11 April, 2003.
- Vijayan, P. and Shanmugam, B. (2003). *Service Quality Evaluation of Internet Banking in Malaysia*. <http://www.arraydev.com/commerce/jibc/0306-06.htm>. Accessed date: 21 May, 2003.
- Wen, H. J., Chen, H. G., and Hwang, H. G. (2001). *E-commerce Web site design: strategies and models*. Information Management & Computer Security, Vol 9 No.1, pp.5-12.